

Notes on *Streptocarpus cyaneus* and *S. parviflorus*

von

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Abstract:

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Streptocarpus cyaneus S. Moore and its close relative *S. parviflorus* J. D. Hooker, both from the Eastern Transvaal, RSA, include a number of morphological forms with distinct distribution patterns. This variation is recognized formally with the description of 2 new species and 4 subspecies. The relations between eastern South African rosulate *Streptocarpus* are discussed. Sketches and a key are provided.

Zusammenfassung:

S. cyaneus S. Moore und sein naher Verwandter *S. parviflorus* J. D. Hooker, beide aus dem östlichen Transvaal, Südafrika, zerfallen in eine Reihe von morphologischen Typen mit fest umgrenzten Verbreitungsgebieten. Dieser Differenzierung wird hier mit der Beschreibung von zwei neuen Arten und vier neuen Unterarten Rechnung getragen. Sie werden mit Skizzen und einem Schlüssel erläutert. Die Verwandtschaftsverhältnisse der rosettenbildenden *Streptocarpus*-Arten des östlichen Südafrika werden diskutiert.

HILLIARD and BURTT's concepts of *S. cyaneus* S. Moore and *S. parviflorus* W. J. Hooker (1971) comprise a number of distinct morphs which are distributed from Eastern Transvaal into the Natal Midlands. We recently removed one of the forms of *S. cyaneus* (from Kranzkop in Natal), which is undoubtedly a close ally to *S. primulifolius* Gandoger, from this group and proposed it as a new species under the name of *S. floribundus* M. Weigend & T. J. Edwards (1994).

Field studies, cultivation of all different morphs, micromorphological investigation (SEM) and the study of herbarium material also enabled us to recognize new taxonomic entities in the remainder of this group in Eastern Transvaal and Swaziland.

We replace two highly polymorphic, widespread species with a series of relatively narrowly endemic, but well defined taxa. This pattern is very typical of the genus and is heavily reflected in its currently accepted taxonomy (HILLIARD & BURTT 1971, HILLIARD 1992). We believe that apart from the disjunction of South African forest habitats, ecological differentiation has played a major role in the formation of new taxa. Thus *S. roseoalbus* sp. nova radiated into much drier habitats (including valley bushveld) than *S. cyaneus*, *S. fenestra-dei* sp. nova and *S. parviflorus*, which are restricted to afro-montane forests (exactly parallel to *S. fasciatus* T.J. Edwards & Kuhnhardt, another relatively drought tolerant off-spring of the *Cyaneus* group). *S. cyaneus* subsp. *longi-tommi* subsp. nova and *S. cyaneus* subsp. *polackii* status novus are separated by preference for cool and moist kloofs in grasslands at higher altitudes versus afro-montane forests at lower altitudes.

Under our definition *S. parviflorus* always has white or soft pink flowers and consists of vegetatively vigorous plants with large leaves and many flowered inflorescences. In contrast *S. cyaneus* has blue or mauve flowers and is less robust (the typical subspecies of *S. cyaneus* is vegetatively robust but is easily distinguished on floral criteria). These two taxa are subdivided into 2 respectively 4 florally and geographically distinguishable subspecies.

Two other morphs are given specific status:

S. fenestra-dei as a narrowly endemic species (only God's Window) is in some way intermediate between *S. cyaneus* and *S. parviflorus* but distinguished from both by the corolla (white, 35 mm long, weak markings) and the very wide, densely pubescent leaves.

S. roseoalbus is a close relative of *S. cyaneus* subsp. *cyaneus* but differentiated from it by its clear pink corolla with a porrect limb and its preference for drier habitats. It is widespread between Swaziland and Lydenburg.

All the drawings (Fig. I & II) provided are from material collected at the respective type localities and cultivated at the University of Natal/Pietermaritzburg.

All rosulate *Streptocarpus* of Eastern Transvaal, including *S. longiflorus* (Hilliard & B. L. Burtt) Edwards, *S. caeruleus* Hilliard & B.L. Burtt, *S. fasciatus*, *S. parviflorus* subsp. *parviflorus*, *S. parviflorus* subsp. *soutpansbergensis* subsp. *nova*, *S. fenestra-dei* sp. *nova*, and *S. cyaneus*, are closely related. *S. cyaneus* is central to the group. This group probably forms a monophyletic assemblage with the Natal/Cape taxa *S. modestus* L. L. Britten, *S. montigena* L. L. Britten, *S. rexii* Lindley, *S. primulifolius*, *S. formosus* (Hilliard & B. L. Burtt) T.J. Edwards and *S. floribundus*. Overall morphological differentiation (including palynology and seed morphology) is weak in comparison to the other South African taxa, especially some of the narrowly endemic and highly isolated species such as *S. dunnii* J. D. Hooker, *S. pole-evansii* Verdoorn, *S. cooksonii* B.L. Burtt.

A detailed palynological and seed-morphological study of the African Gesneriads is in progress and will help to elucidate relative age and relationships of the genera and species groups.

Key to the rosulate *Streptocarpus* of Natal and Transvaal

- 1 Corollas white with V-shaped dark markings in sinuses of lower lip, flower ca. 40 mm, leaves up to 600 x 200 mm, (N. Natal) *S. candidus* Hilliard
- Corollas if with dark markings on lower lip never with V-shaped ones, leaves usually much smaller 2
- 2 Corollas with dark corolla tube and white limb, flowers ca. 30 mm long, (Mariepskop & Eastern Cape) *S. meyeri* B.L. Burtt
- Corolla uniformly coloured or sometime with dark limb and white tube 3
- 3 Corolla 60-105 mm long, limb spreading, tube never dorsiventrally compressed, always with 7 wide dark lines on lower limb, if yellow present on the floor of tube never as discrete line or blotches, (Natal & Eastern Cape); *S. rexii* agg. 15
- Corollas 20-90 mm, limb spreading or porrect, tube sometimes dorsiventrally compressed, with 0-3-7-10 dark lines on lower limb, if lines wide discrete yellow line always present, (Natal & Transvaal); 4
- 4 Floor of tube greenish-yellow, corolla 50 mm long, slightly dorsiventrally compressed, limb violet with 7 interrupted dark lines, leaves dark green, strongly rugose, shortly pilose, (Natal) *S. gardenii* Hook.f.

- Never green on floor of the tube but often with yellow markings, corolla 20-90 mm long, leaves light green, rugose, pilose to pubescent, (Transvaal & Swaziland); *S. cyaneus* agg. 5
- 5 Yellow markings altogether absent, tube dorsiventrally compressed, corolla c. 70 mm long with 7 lines on lower limb and 2 lines on upper limb, flowers pale blue, (Komatipoort) *S. fasciatus* T.J.Edwards & Kuhnhardt
- Yellow markings present or if absent tube shorter than 60 mm and never compressed, if more than 7 dark lines corolla dark purple 6
- 6 Yellow markings present in the form of Y-shaped bar or 2 dots at the sinuses of lower limb, dark lines on limb altogether absent 7
- Yellow present on floor of the tube in form of discrete yellow line or (in individual plants) absent, dark lines on limb present or (rarely) faint 8
- 7 Y-shaped yellow bar on floor of the tube, corolla length exceeding 50 mm, limb porrect, blue (Blouberg) *S. longiflorus* (Hilliard & B.L.Burt) T.J.Edwards
- 2 yellow dots at sinuses of lower limb, corolla 25-30 mm long, limb strongly reflexed, mauve, (Blouberg & Western Soutpansberg) *S. caeruleus* Hilliard & B.L.Burt
- 8 Corollas small, 20-35 mm long, limb white or pink, inflorescence 5 - over 20-flowered 9
- Corollas over 30 mm long and blue or purple, if pink over 50 mm long and limb porrect, inflorescences usually with less than 6 flowers 11
- 9 Leaves up to 400 x 130 mm, densely pubescent, flowers 30-35 mm long, white, with faint or stippled lines, (God's Window) *S. fenestra-dei* Weigend & T.J.Edwards
- Leaves narrower, pubescent, flowers 20-30 mm long white or pink, with 7 dark lines (Mariespok and northwards to Soutpansberg) *S. parviflorus* Hook.f. 10
- 10 Corollas white, limb porrect, filaments usually white, (Mariespok, Haenertsburg area) *S. parviflorus* subsp. *parviflorus*
- Corollas pink, limb spreading, filaments blackish blue, (Soutpansberg -Louis Trichart) *S. parviflorus* subsp. *soutpansbergensis* Weigend & T.J.Edwards
- 11 Corolla incl. tube deep purple, 60-80 mm long, markings in form of yellow bar and up to 11 dark lines on limb very well developed, (Long Tom Pass, Waterfal Boven, Rivulets); *S. cyaneus* subsp. *longi-tomii* Weigend & T.J.Edwards
- Corolla shorter, never purple, sometime pink or mauve, normally skyblue, tube always white or pale, 0-3-7 dark lines on lower limb present 12
- 12 Corolla pink, sometimes pale pink, upper limb porrect, dark lines pencilled, corolla up to 50 mm long, flowers born singly or in pairs, plant often on edge of forest and on dry ground; *S. roseoalbus* Weigend & T.J.Edwards
- Flowers skyblue or mauve, upper limb spreading, lines pencilled or wider, plant always in moist forest habitats 13
- 13 Corolla 50 mm long, limb deeply mauve, tube white, straight and round, 7 wide dark lines always present, sometimes confluent over part of their length, inflorescences up to ... 7-flowered, (from Barberton south into Swaziland) *S. cyaneus* S.Moore subsp. *cyaneus*
- Corolla skyblue or pale mauve, 30-75 mm long, tube white or pale mauve, 3-7 pencilled lines present 14
- 14 Corolla skyblue, sometimes very pale, 25-35 mm long, filaments blackish blue, (Mariespok, Haenertsburg area, E. Soutpansberg) *S. cyaneus* subsp. *nigridentis* Weigend & T.J.Edwards
- Corolla skyblue (or pale mauve - only Kowynspass), 60-75 mm long, 7 pencilled lines always present, (Graskop to Wterfall Boven to Kaapse Hoop) *S. cyaneus* subsp. *polackii* (B.L.Burt) Weigend & T.F.Edwards
- 15 Floor of tube without yellow area 16
- Floor of tube without yellow *S. primulifolius* Gand.
- 16 Stigma purple, scapes and lower surfaces of leaves densely covered with glandular trichomes, flowers up to 60 mm long, yellow in lower third of tube, inflorescences up to

16 flowered, (Kranzkop/Natal)

S. floribundus Weigend & T.J.Edwards

- Stigma white, scapes and lower surface of leaves with eglandular filiform trichomes, flowers up to 105 mm long, yellow area on bottom of tube reaching the mouth, stippled with purple, inflorescences 2-flowered (Natal Southcoast)

S. formosus (Hilliard & B.L.Burt) T.J.Edwards

Streptocarpus roseo-albus Weigend & T.J.Edwards, species nova,
S. cyaneus affinis ab illo flore minore, pallide roseo depresso aliterque differt.

Type: South Africa, Eastern Transvaal, Barberton, Agnes Mine, Edwards, *Weigend & Louw 1239* (NU, holo.; E, PRE, iso).

S. rexii sensu E. P. Philipps, Fl. Pl. South. Africa XVII: t. 666;

Rosulate perennial. Leaves more or less prostrate, oblong-lanceolate, 100-250 x 25-50 mm, lamina decurrent, pilose, margins crenate, petiole 0-25 mm; lower surface sometimes with stalked glands. Inflorescences 1-3-flowered, peduncle up to 150 mm tall, pilose. Sepals linear-lanceolate, 4-0,5 mm, pilose, tips red-brown. Corolla funnel-shaped, 35-45 mm long; tube 25-30 mm long, white or greenish, narrow yellow stripe on floor, cylindrical or slightly dorsiventrally compressed, proximal diameter 3 mm, tapering to 9-10 x 15 mm, outside glandular pubescent, inside very sparsely set with short-stalked glands, roof with few eglandular trichomes at mouth; limb bilabiate, clear pink or nearly white, lobes rounded, 10 x 10 mm, lower pericarp usually with 7 maroon stripes, upper lobes spreading. Stamens epipetalous, arising from the lower third of the corolla, filaments 7-9 mm long, white, glabrous basally, with numerous stalked glands distally; anthers 3 x 1 mm, white, posterior staminode minute, within a dorsal channel, lateral staminodes c. 1,5 mm long. Pollen prolate, 20 x 12µm, tricolpate, exine microreticulate and minutely scabrate. Ovary 12 mm long, with dense, appressed, filiform trichomes; disc orange or white; style 8-10 mm long, dorsiventrally compressed, with stalked glandular trichomes distally; stigma stomatomorphic, bilabiate, narrowly elliptical, papillate. Fruit pale brown, up to 55 x 1,5 mm, tightly twisted.

Flowering time December to March. The species is distinguished from *S. cyaneus* by its pink to pale pink flowers with short, white tubes and one- to two-flowered inflorescences. The species occurs from 1000 to 1500 m often in lowveld vegetation in contrast to *S. cyaneus* which has an afro-montane distribution. Due to the sharp altitudinal gradient around Barberton some contact zones between *S. roseo-albus* and *S. cyaneus* S. Moore subsp. *cyaneus* occur. Hybrids have been recorded but these are easily recognised by their habit and flower colour.

The specific epithet of *S. roseo-albus* refers to flower colour.

Selected specimens

Transvaal. 2530 (Lydenburg): 31 km on Houtbosloop River on Lydenburg road, (-AD); *Hilliard 3019* (NU) - 3 km on Houtbosloop River on Lydenburg road, (-AD), *Hilliard 2980* (NU) - Brondal, (-BB), *van Jaarsveld 134* (PRE) - Buffelskloof Nature Reserve, (-BC), *Weigend, Edwards, Vos & Crouch 2930* (MUC, NU) - 2531 (Komatipoort): Agnes Mine, Barberton, (-CC), *Hilliard 2933* (NU) - ,dto., *Edwards, Weigend & Louw 1329* (E, NU, PRE) - 4 km NE of Agnes Mine, Barberton, (-CC), *Story 5450* (PRE) - Ameide Farm, Barberton, (-CC), *Burt 2933* (NU).

Streptocarpus parviflorus Hook.f. in Bot. Mag. t. 6636. **Type:** Plate in Bot. Mag. t. 6636.

Rosulate perennial. Leaves suberect, obovate, 350-450 x 70-125 mm, lamina decurrent, pilose, margins crenate, petiole 40-60 mm; lower surface with short stalked glands. Inflorescence up to 20 flowered, peduncle up to 300 mm tall, pilose. Sepals linear-lanceolate, 5-8 x 1 mm, pilose, tips red-brown. Corolla 20-35 mm long, widely funnel-shaped; tube 13-25 mm long, white or soft pink, yellow stripe on floor, cylindrical, 7-15 mm at throat, outside glandular pubescent, inside very sparsely set with short-stalked glands, roof with few glandular trichomes at mouth; limb weakly bilabiate, lobes suborbicular or elongate, porrect or spreading, white or soft pink, lower three lobes with 7 dark lines extending onto the limb or with dark stippling. Stamens 4-9 mm long; filaments white, glabrous basally, glandular distally; anthers 1.5-2 x 1 mm, white or deep purple; posterior staminode minute, lateral staminodes c. 1.5 mm long. Pollen prolate, 20-12 μ m, tricolpate, exine microreticulate and minutely scabrate. Ovary c. 6-8 mm long, with dense, appressed, filiform trichomes; disc white, style 5-8 mm long, dorsiventrally compressed, with stalked, glandular trichomes distally; stigma stomatomorphic, bilabiate, elliptical, papillate. Fruit up to 55 x 1.5 mm.

S. parviflorus subsp. *parviflorus*

Leaves suberect, oblong 350-450 x 60-7 mm. Peduncle up to 250 mm tall. Corolla 20-30 mm long, tube 13-18 mm long, white, 7 x 8 mm at throat, lobes of limb round, porrect, white; Lower lobes with 7 dark lines. Filaments 4-7 mm long, white, anthers 1.5 x 1 mm, white. Ovary c. 6 mm long, style 5-8 mm long.

The typical form of *S. parviflorus* occurs at Woodbush Forest Reserve, Haenertsburg, Soutpansberg and Mariepskop. A distributional pattern which is repeated in *S. cyaneus* subsp. *nigridens*. It is always white flowered, and robust.

Selected specimens

Transvaal. 2229 (Waterpoort): Waterkloof at Wtvlag, (- DD), *Hutchinson 2259* (PRE) - 2339 (Pietersburg): Houtbosch, (- DD), *van der Merwe 306* - Scilla Hill, Haenertsburg, (- DD), *Story 5372* (PRE) - 2330 (Tzaneen): Woodbush Forest Station, (- CC), *Prosser 1217* (PRE) - 2430 (Pilgrim's Rest): Mariepskop, Bedford Path, (- DD), *Hilliard 4739* (NU).

S. parviflorus subsp. *soutpansbergensis* Weigend & T.J. Edwards subsp. nov.

S. parvifloro subsp. *parvifloro* proximus. A illo limbo roseo et corollae lobis haud rotundis et porrectis autem oblongis et patentibus differt.

Type: South Africa, Waterpoort, 12 km from Mountain Inn to Bluegumspoort, Soutpansberge, *Stirton 10572* (PRE).

Leaves oblong-lanceolate, 200-270 x 35-55 mm, pubescent, Peduncle up to 200 mm long. Corolla widely funnel-shaped; 25-30 mm long, tube 12-25 mm long, soft pink, 8-10 mm at throat, limb spreading to reflexed, lower lobes with bold lines, sometimes forked. Filaments dark purple.

This taxon is readily distinguished from the other two subspecies of *S. parviflorus* by its soft pink flowers with a distinctly spreading limb marked with bold and often forked lines. The dark filaments also occur in *S. cyaneus* subsp. *nigridens* and sometimes in *S. parviflorus* subsp. *parviflorus*.

Selected specimens.

Transvaal. 2229 (Waterpoort): Hangklip Forest Reserve, Lopuis Trichart, (-- DD), Hilliar 4757 (NU), *Gerstner* 5722 (PRE).

S. fenestra-dei Weigend & T.J.Edwards, sp. nova

S. parvifloro subsp. *parvifloro* similis ab eo foliis multo majoris et dense pubescentibus, floribus majoribus punctatione violacea vel lineis perdilutibus notatis differt.

Type: - South Africa, Pilgrim's Rest, God's Window, in forested gullies, Edwards, *Weigend, Crouch & Vos* 1240 (NU, holo.; E, PRE, iso.).

Leaves obovate, 350-450 x 90-125 mm, densely pilose. Peduncle up to 300 mm tall. Corolla widely funnel-shaped, 30-35 mm long, tube 20-25 mm long, white, yellow stripe on floor, cylindrical, 8 x 10 mm at throat, limb porrect to spreading, lower lobes with dark stippling or very faint lines. Staminal filaments white. Flowering time December to January.

The large flowers and large, densely pilose leaves characterize this subspecies, which is geographically isolated from *S. parviflorus*. It grows lithophytically and on earth banks in forested gullies at God's Window in the eastern Transvaal. The suggestion that this population may be of hybrid origin (HILLIARD & BURTT 1971), seems unlikely since neither of the postulated parents occur in the area and because the populations are homogenous. The specific epithet refers to the locality.

Plants from Bourke's Luck Mine, (*E. Galpin s.n.*, PRE) could belong to this subspecies however we have not visited these populations to confirm this.

Specimen examined

Transvaal. -- 2430 (Pilgrim's Rest). God's Window, (-CA), *Hilliard* 6038 (NU) - dto., *Edwards, Weigend, Crouch & Vos* 1240 (E, NU, PRE).

Streptocarpus cyaneus S. Moore in J Bot. 43: 169-173. **Type.** Swaziland, Piggs Peak, Forbes Reef, *Burt Davy* 2747 (BM, K).

= *S. junodii* G. Beauverd: 699 (1907). **Type:** Transvaal, Junod, cultivated Geneva (G, holo).

Rosulate perennial. Leaves oblong-lanceolate, 250-450 x 40-125 mm, lamina decurrent, pilose, margins crenate, petiole 0-60 mm; lower surface with sparse, short-stalked glands. Inflorescences up to 7-flowered; peduncle up to 300 mm tall, pilose, Sepals linear-lanceolate, 4-11 x 1-2 mm, pilose, tips red-brown. Corolla widely to narrowly funnelshaped, 30-80 mm long, tube straight or bent, 20-55 mm long, white to purple, yellow stripe on floor, cylindrical, 8-15 x 10-20 mm at throat, outside glandular-pubescent, inside very sparsely set with short-stalked glands, roof with filiform trichomes at mouth; limb weakly to strongly bilabiate, lobes suborbicular to oblong, porrect to slightly reflexed, skyblue, mauve, lilac or deep purple, up to 11 dark lines on limb, usually 7 on lower lobes. Stamens 9-12 mm long; filaments white to very dark blue, glabrous basally but with numerous stalked glands distally; anthers 3 x 1 mm, white to purple; posterior staminode minute, lateral staminodes c. 1.5 mm long. Pollen prolate, 20 x 12 µm, tricolpate, exine microreticulate and minutely scabrate. Ovary c. 8-30 mm long, with dense, appressed, filiform trichomes, disc white or orange, style 8-30 mm long, dorsiventrally compressed, with stalked glandular trichomes distally; stigma stomatomorphic, bilabiate, elliptical, papillate. Fruit pale brown, up to 100 x 1.5 mm.

S. cyaneus subsp. *cyaneus*

Leaves suberect, soft, up to 350 x 10 mm. Inflorescence with up to 7-flowers. Corolla 30-55 mm long, tube white, straight and cylindrical, 25-40 x c. 15 mm at throat, bold yellow line of floor; limb weakly bilabiate, spreading, mauve, rarely pale, with 7 bold lines on lower lip, lobes round, white on the outside. Filaments and anthers white. Ovary c. 15 mm long, style 10-12 mm long, Capsule up to 110 mm long.

Selected specimens

Transvaal. -- 2531 (Komatipoort): hills above Agnes Mine, Barberton, (-CC), *Burt* 2940 (NU) - Piggs Peak, (-CD), *Dlamini s.n.* (PRE) - havelock Mine, South African Border Post, (-DC), *Edwards* 1221 (NU).

Swaziland. - 2631 (Mbabane). Forbes Reef, Kings Forest, (-AA) *Compton* 29639 (PRE) - Gobolo Mbabane, (-AC), *Compton* 30359 (PRE) - Mbabane, (-AC), *Story* 5430 (PRE) - Mhlambanyati, Mantu Forests, (-CC), Somers s.n. (NU); Hlatikulu, next to main road to Manzini, (-DC), *Culverwell* 524 (NU).

The typical form *S. cyaneus* is robust and occurs commonly in Swaziland and along its border with South Africa. It represents the southernmost subspecies of *S. cyaneus* and shows the greatest similarity to *S. primulifolius*. The flowers are characteristically short and broad. Hybrids have been collected at sporadic contact zones with *S. roseo-albus* and these are discussed under that species.

S. cyaneus subsp. *nigridens* Weigend & T.J.Edwards, subsp. nova
ab aliis subsp. *C. cyanei* corolla parva caerulea cum filis atrocyanis differt.

Type. -- South Africa. Transvaal, Mariepskop Forest Reserve, Klaserie Waterfall, *Weigend, Edwards, Crouch & Vos* 2876 (NU, holotype).

Leaves suberect, up to 250 x 50 mm. Inflorescences 3-8-flowered. Corolla 25-30 (-40) mm long, tube broad and straight, 20-30 mm x 10 mm at throat, white, pale yellow stripe inside; limb weakly bilabiate, lobes suborbicular, upper 2 spreading, lower 3 porrect, usually very pale blue, rarely skyblue or pale lilac, lower lip with 7 fine, dark lines. Filaments and anthers dark blue. Ovary 10 mm, style 5-7 mm. Capsule up to 70 mm long.

Selected specimens

Transvaal. - 2229 (Waterpoort): Witvlag rd., Zoutpansberg, (-DD), *van der Merwe* 1359 (PRE) - 2230 (Messina), Tate Vondo Forest Reserve, Mahobahoba Waterfall, (-CD), *Weigend, Edwards, Venter & Hahn s.n.* (NU) - 2329 (Pietersburg): Fire lookout tower above Louis Trichart, (-BB), *Hilliard* 4756 (NU) - 2330 (Tzaneen): between Magoebaskloof and Haenertsburg, (-CC), *Story* 5376 (PRE) - 2429 (Zebediela): Wolkenberge, (-BB), *Louw* 33 (PRE) - 2430 (Pilgrim's Rest): Mt. Ararat, Tzaneen, (-AA), *van der Merwe* 1179 (PRE) - The Downs, (-AA), *Burt* 2914 (PRE) - Selati River banks Ofcolaco, (-AB), *Story* 5396 (PRE) - 2 km south of main road on Ngodwana River, (D-DA), *Louw* 27 (PRE) - Mariepskop Forest Reserve, Bedford path, (-DD), *Burt* 2927 (NU).

This subspecies is, from our observation in the field and from herbarium evidence, highly homogenous. Live plants from Tate Vondo Forest Reserve in the Soutpansberg at the very north of the distributional range and plants from Mariepskop at its southern limit are indistinguishable. Hilliard & Burt (1971) mention a very considerable degree of variation in the area of Haenertsburg/Ofcolaco. We were not able to verify that *S. junodii* Beauverd, described

from this area, does, however, fall out of the range of this and all other subspecies of *S. cyaneus*. If adequate material should come to light it may be necessary to adjust our sub-specific concept in a way to accommodate this additional morph. We therefore did not set the name *S. junodii* as a synonym under this subspecies (where it belongs distributionwise) but left it as a synonym for the species for the time being.

S. cyaneus subsp. *longi-tommii* Weigend & T.J.Edwards, subsp. nov.

differt ab omnibus aliis subsp. floribus magnis et atropurpureis cum 7-11 lineis atris in areis albis limbi inferioris.

S. cyaneus sensu C. Letty: t. 155,1 (1962).

Type. South Africa, Lydenburg, Uitkykpunt, Long Tom Pass, common in forested gullies, *Edwards & Ackermann 1008* (NU).

Leaves suberect, strap-shaped, up to 400 x 50 mm. Inflorescence 1-3-flowered. Corolla up to 80 mm long; tube narrow, bent below, widening above, purple outside, white abaxially in the lower quarter, bold yellow stripe on floor of tube, extending onto the limb, area around yellow bar white, 15 x 20 mm at throat; limb violet-purple, with 7-9-11 deep purple lines, strongly bilabiate, lobes oblong, upper 2 reflexed, lower 3 porrect. Stamens inserted in upper third of tube, filaments and anthers purple. Ovary 30 mm long; style pink, 30-40 mm. Capsule always bent in lower third, up to 70 mm long.

The subspecies is characterised by its long, violet corolla tube and by its long, narrow leaves. Markings on the corolla are bold and the yellow bar in the corolla throat is always prominent. The subspecies is centred on the escarpment around Lydenburg in moist afro-montane forest usually in seepage zones of forested krantzes.

Selected specimens

Transvaal. - 2530 (Lydenburg): Uitkykpunt, Long Tom Pass (-BA), *Edwards & Ackermann 1008* (NU) - 10 km north of Rivulets, (-BB), *Weigend & Edwards 2828* (NU) - Clivia Pass, (-CA), *Weigend 2913* (NU) - Waterval Boven, Eerste Geluk, (-DA), *Louw 6* (PRE) - escarpment rd. towards Kaapse Hoop, (-DB), *Retief & Hermann 50* (PRE).

Streptocarpus cyaneus subsp. *polackii* (B.L.Burtt) Weigend & T.J.Edwards, stat. nov. ≡ *Streptocarpus polackii* B. L. Burtt in Curtis's Botanical Magazine 164: t. 9668 (1946).

Type:- Transvaal, Barberton, *Polack*, cultivated John Innes Horticultural Institute (K, holol!).

Leaves suberect to prostrate, up to 250 x 50 mm. Inflorescences up to 5-flowered. Corolla up to 70 mm, tube slightly deflexed, white or palest blue lilac, 35-65 mm long, 15 mm at throat, limb strongly bilabiate, lobes oblong, upper ones reflexed, lower ones porrect, blue, lower lip with 7 fine dark lines. Stamens inserted in middle of tube, filaments and anthers white to pale lilac. Ovary 15-25 mm, style 15-25 mm, Fruit up to 100 mm long.

Selected specimens

Transval. - 2430 (Pilgrim's Rest): Mt. Sheba Nature Reserve, Baboon's Leap, (-DC), *Jacobsen 4501* (PRE) - Station Gorge, Graskop, (-DD), *Reynolds 2659* (PRE) - 1 km east of Pilgrim's Rest, (-DD), *Codd 9796* (PRE) - Pilgrim's Rest, (-DD), *Codd & De Winter 3315* (PRE) - on top of MacMac

Falls, Graskop, (-DD), *Weigend, Edwards, Vos & Crouch 2829* (NU) - Kowynspass, Graskop, (-DD), *Edwards 667* (PRE) - dto., *Hilliard 2966* (NU) - Kappiekoppie, (-DD), *van Jaarsveld 49* (PRE) - 2530 (Lydenburg) Maritzbos, (-BA), *Mohle 177* (PRE) - Maughsberg, Sabic, (-BB), *van der Merwe 1650* (PRE) - Wonderkloof, (-BC), *Kluge 1208* (PRE) - Witklip Bosboustasie, (-BD), *Kluge 487* (PRE) - Waterval Boven, (-CB), *Louw 4* (PRE) - Houtboshoeck, (-DA), *Louw 26* (PRE) - Kaapse Hoop, (DB), *Story 5960* (PRE) - Nelshoogte, (-DD), *Story 5463* (PRE).

This subspecies is common in montane forest patches around Pilgrim's Rest. Inflorescences often bear more than two flowers which are intermediate in length between *S. cyaneus* subsp. *longi-tommi* and subsp. *nigridens*. However occasional specimens with long corollas have been recorded from Kowyns Pass. This subspecies is very closely allied to subsp. *longi-tommi* but is distinguished by corolla length and the skyblue rather than purple ground colour of the corolla.

Acknowledgements

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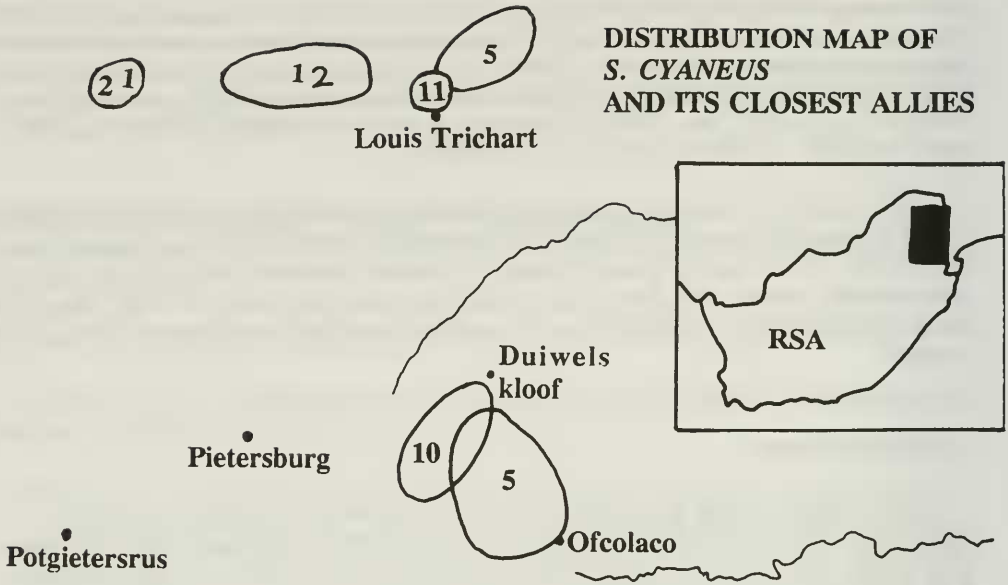
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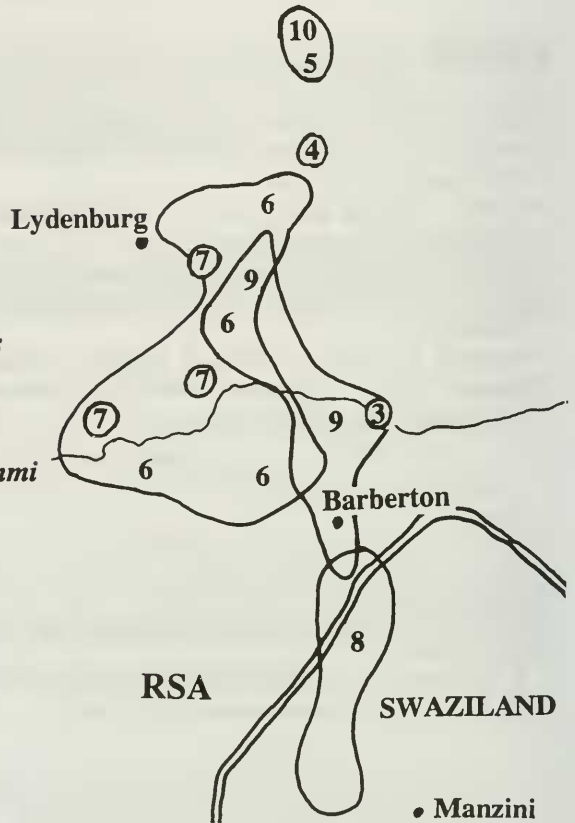
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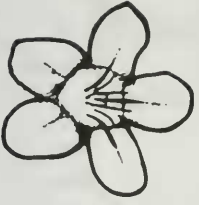
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DISTRIBUTION MAP OF
S. CYANEUS
AND ITS CLOSEST ALLIES

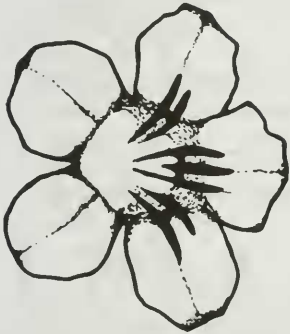
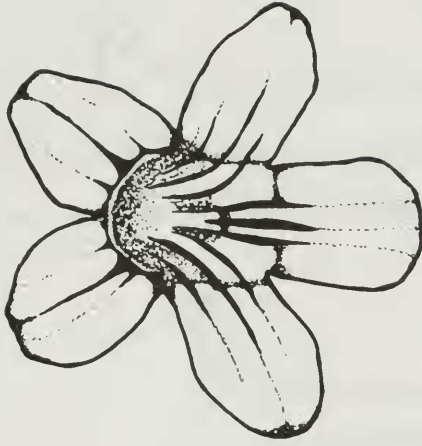


1. *S. caeruleus*
2. *S. longiflorus*
3. *S. fasciatus*
4. *S. fenestra-dei*
5. *S. cyaneus* subsp. *nigridens*
6. *S. cyaneus* subsp. *polackii*
7. *S. cyaneus* subsp. *longi-tommi*
8. *S. cyaneus* subsp. *cyaneus*
9. *S. roseoalbus*
10. *S. parviflorus* subsp. *parviflorus*
11. *S. parviflorus* subsp. *soutpansbergensis*

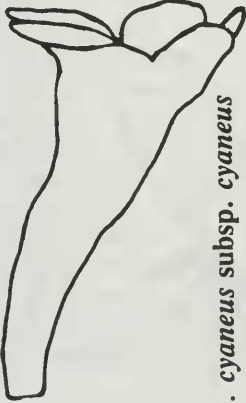




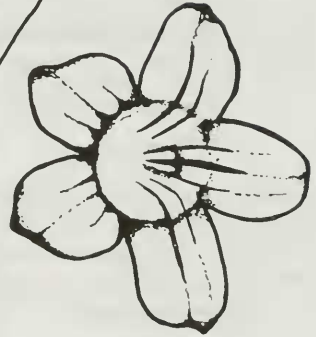
S. cyaneus subsp. *nigridentis*



S. cyaneus subsp. *cyaneus*

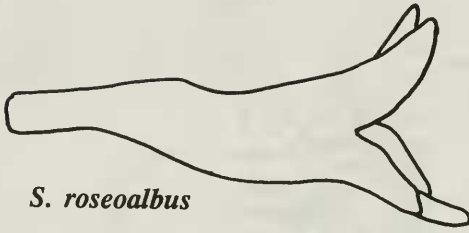
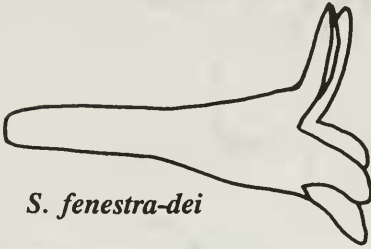
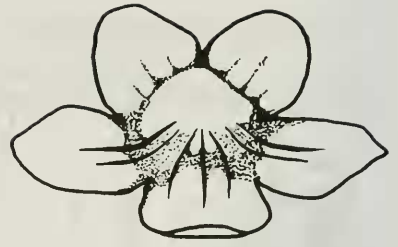
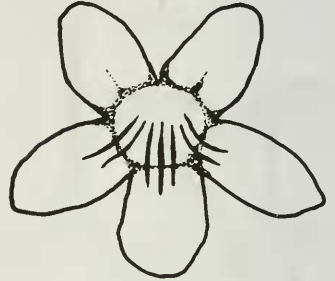
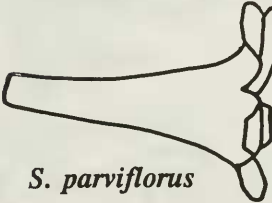
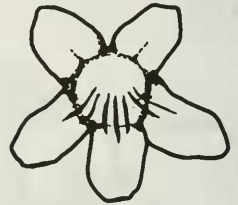
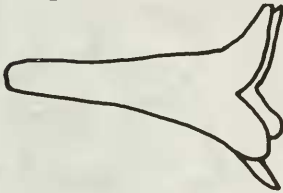
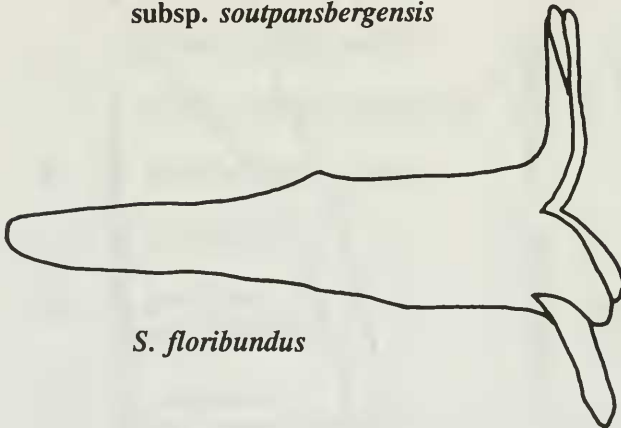
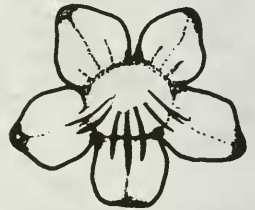


S. cyaneus subsp. *longi-tommi*



S. cyaneus subsp. *polackii*



*S. roseoalbus**S. fenestra-dei**S. parviflorus* subsp. *parviflorus**S. parviflorus*
subsp. *soutpansbergensis**S. floribundus*